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University of California  
College of Agriculture  
Agricultural Experiment Station  
Berkeley, California

SEASONAL LABOR NEEDS FOR CALIFORNIA CROPS

YOLO COUNTY

(Excluding Delta Lands)

Progress Report No. 57

by

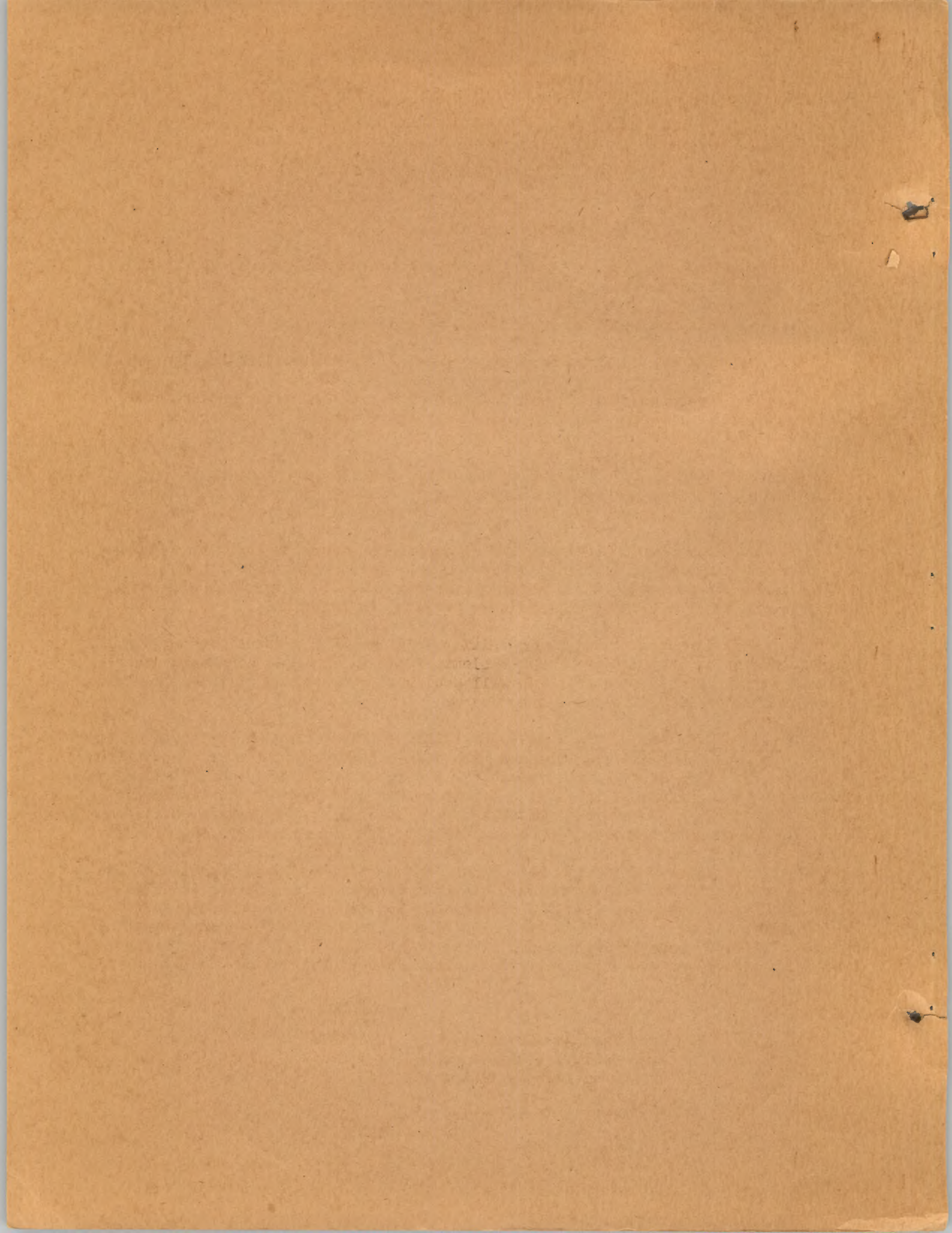
R. L. Adams

Preliminary -- Subject to Correction

October, 1936

• Contribution from the  
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Progress Report No. 57

Seasonal Labor Needs of California Crops

Yolo County  
(Excluding Delta Lands)

Scope of Presentation.-- The following considerations govern the presentation of this progress report:

1. The data are confined to the area indicated above.
2. The data are confined solely to crops, livestock needs being ignored.
3. The findings apply only to occasional or seasonal labor requirements as distinguished from labor contributed by farm operators and by workers employed on a year-round or regular basis of employment.
4. Attention is concentrated upon workers required for hand tasks -- planting, thinning, weeding, hoeing, and harvesting -- without including teamsters, tractor drivers, irrigators, and shed packers of vegetables or fruits.
5. The presentation includes the so-called migratory, transient, or roving workers which comprise an important source of help needed in connection with certain tasks and at "peak" times which seasonally arise in connection with many field, truck, and fruit crops commercially produced in California.
6. This report is confined to California's need for seasonal agricultural workers because of the more pressing problems liable to arise in connection therewith. A later study is planned which will deal with other kinds of labor involved in the production of California's many crops.

Brief Description of the Area.-- Yolo County is situated in the southwestern part of the Sacramento Valley, Woodland, the county seat, located near the center of the county, being 16 miles northwest of the city of Sacramento, and 70 miles northeast of San Francisco. It lies entirely on the west side of the Sacramento River, which forms its eastern boundary about 50 miles long, and separates it from Sutter and Sacramento counties. On the north it joins Colusa County, the boundary line running west about 30 miles from the river to the Vaca mountains, which extend in a southeasterly direction and divide it from Lake and Napa counties on the west. On the south Putah Creek forms the line between Yolo and Solano counties for about 22 miles eastward from the mountains. The line then runs south for about 16 miles and east about 6 miles to the Sacramento River. The county contains an area of 648,960 acres, of which 408,218 acres are classified as available for crops by the 1935 Census. This is further classified as follows by the census:

	<u>Acreage</u>
Crop land harvested	243,417
Crop failure (1934 season)	1,978
Crop land idle or fallow	59,445
Plowable pasture	<u>103,378</u>
Total land available for crops	408,218



Seasonal Labor Needs of California Crops

Yolo County  
(Excluding Delta Lands)

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Available  
408,218  
Total land available  
for crops

Crop land harvested  
Crop failure (1934 average)  
Crop land idle or fallow  
Plowable pasture  
Total land available  
for crops



Practically all of the county east of the hills along the western boundary is farmed, wheat and barley occupying the largest acreage. Where irrigation water is available, sugar beets, tomatoes, lettuce, and other crops are extensively grown. A large acreage is planted to orchards, especially almonds, apricots, prunes, and peaches in several different localities, notably in the vicinity of Winters, Davis, Woodland, Esparto, and Capay Valley. The cultivated lands are mostly below 200 feet in elevation, and quite level in topography.

The soils vary considerably in texture, but are mostly clay loams and clays, only a relatively small part of the area being loams or lighter textures. Practically all are 6 feet or more in depth. Four soil series include most of the agricultural land of the district, although a few others are represented.

A part of the county lies in the delta of the Sacramento River and is therefore excluded from this progress report, since the Delta, as a unit, is to be the subject of a separate report.

Crops, Acreages, and Production.-- The basis used in calculating occasional or seasonal need for labor, other than that furnished by farm operators and regularly employed workers, appears as table 1. This table does not include that portion of the county which lies in the Delta, since the Delta, including portions of five counties, is considered as a separate unit in Progress Report No. 59. Acreage and production figures shown in table 1 are estimates based on information obtained from various sources, and are believed to represent conditions with a fair degree of accuracy. Assistance in compiling this table was given by Mr. W. D. Norton, Farm Advisor, and Mr. Charles H. Hardy, Agricultural Commissioner, of Yolo County.

TABLE 1

Basis for Calculating Seasonal Labor Requirements  
Yolo County (Excluding Delta)

Crops	Acreage	Production
Field crops:		
Alfalfa	13,000	65,000 tons
Beans	1,000	15,000 sacks
Grain (wheat, barley, and oats)	128,000	--
Hay, other than alfalfa	9,000	12,000 tons
Rice	9,500	332,500 sacks
Sugar beets	14,935	224,025 tons
Hops	400	3,600 bales of 200 pounds (dry weight)*
Vegetable crops:		
Lettuce - spring	600	120,000 crates
- fall	500	100,000 crates
Melons -- honeydew	300	96,000 crates
Peas - spring	600	45,000 hampers
Tomatoes -- canning	2,800	22,400 tons
shipping	200	11,200 packed lugs
Fruit and nut crops:		
Almonds*	7,500	1,295 tons
Apples*	8	--
Apricots	2,200	(1,066 tons sold fresh (1,952 tons fresh weight, dried*)
Cherries*	57	--

Table continued on next page.



Practically all of the county east of the hills along the western boundary is farmed, wheat and barley occupying the largest acreage. Where irrigation water is available, sugar beets, tomatoes, lettuce, and other crops are extensively grown. A large acreage is planted to orchards, especially almonds, apricots, peaches, and grapes in several different localities, notably in the vicinity of Windsor, Davis, Woodland, Rialto, and Caskey Valley. The cultivated lands are mostly below 200 feet in elevation, and quite level in topography.

The soils vary considerably in texture, but are mostly clay loams and clays, only a relatively small part of the area being loams or lighter textures. Practically all are 6 feet or more in depth. Four soil series include most of the agricultural land of the district, although a few others are represented.

A part of the county lies in the delta of the Sacramento River and is therefore more excluded from this progress report, since the Delta, as a unit, is to be the subject of a separate report.

Crops, Acreage, and Production.—The basis used in calculating seasonal or seasonal need for labor, other than that furnished by farm operators and partly employed workers, appears as Table 1. This table does not include that portion of the county which lies in the Delta, since the Delta, including portions of five counties, is considered as a separate unit in Progress Report No. 59. Acreage and production figures shown in Table 1 are estimated based on information obtained from various sources, and are believed to represent conditions with a fair degree of accuracy. Assistance in compiling this table was given by Mr. W. D. Norton, Farm Advisor, and Mr. Charles H. Hardy, Agricultural Commissioner, of Yolo County.

TABLE 1

Basis for Calculating Seasonal Labor Requirements  
Yolo County (Including Delta)

Crop	Acreage	Production
Wheat	12,000	12,000 tons
Barley	1,000	1,000 tons
Sugar beets	128,000	128,000 tons
Tomatoes	2,000	2,000 tons
Lettuce	2,500	2,500 tons
Almonds	14,235	14,235 tons
Apricots	400	400 tons
Peaches	2,600	2,600 tons
Grapes	2,600	2,600 tons
Orchards	12,000	12,000 tons
Vegetable crops	12,000	12,000 tons
Hay	12,000	12,000 tons
Grain	12,000	12,000 tons
Other crops	12,000	12,000 tons
...	...	...



Table 1 continued.

Crops	Acreage	Production
Fruit and nut crops (cont.):		
Figs (mostly Mission)	1,359	(900 tons dry (13,800 crates fresh -- first crop)†
Grapes -- table and raisin	700	(10,000 lugs table varieties) 116,000 (106,000 lugs wine varieties) lugs shipped
wine	1,500	6,950 tons for juice
Olives	391	(264 tons for canning ‡ (280 tons not for canning
Peaches -- clingstone)	1,468	(540 tons clingstone varieties § (3,600 tons shipped fresh ¶
freestone )		(2,750 tons fresh weight dried*
Pears, Bartlett	500	500 tons
Plums	450	130 tons (10 cars shipped in 1935)
Prunes	2,300	7,538 tons fresh weight dried = 3,350 tons dry weight*
Walnuts	268	322,650 pounds**

\* Drying ratios estimated to be as follows:

Apricots	5.5 to 1
Peaches	5.5 to 1
Prunes	2.25 to 1
Hops	4 to 1

† Nine carloads of 1,200 flats figs sent by truck to San Francisco in 1935, and about 3,000 flats to Sacramento. Amount to other placed, if any, not known.

‡ Olive production estimated by California Olive Association.

§ About 80 tons (fresh weight) of cling peaches were dried.

¶ About 317 cars peaches were shipped fresh, amounting to about 3,600 tons.

|| A full pear crop would be about 2,500 tons.

\*\* Walnut production figured as follows:

Estimate of merchantable walnuts by Walnut Control Board	267,800 pounds
Plus estimated percentage of culls -- 17 per cent	54,850 pounds
Total	322,650 pounds

Operations Requiring Seasonal Labor and Times of Need.-- Farm operations requiring the use of seasonal labor for the various crops raised in Yolo County (excluding that part of the county lying in the Delta) are indicated in table 2. This table does not include the employing of shed workers needed to wash, pack, and prepare various commodities for shipping and marketing.







TABLE 2

Operations Requiring Use of Seasonal Labor and Times of Needs by Crops  
Yolo County (Excluding Delta Lands)

Crop	Operation	Time of need by months	Per cent of work done by seasonal help	Output per man-day
Field crops:				
Alfalfa	Mowing	Apr. 1 ) five-sevenths of	66	7.5 acres*
	Raking	to ) acreage each	66	15 acres
	Shocking	Oct. 31) month	66	30 acres
	Baling --	Apr. 1 ) one-seventh of	90	4 tons
	85 per cent	to ) job each		
	of crop	Oct. 31) month		
Beans	Hoeing --	July -- all acreage	100	2.5 acres
	once			
	Piling	Aug. 20-30 -- 10 per cent )	100	2 acres
		of acreage )		
		Sept. 1-30 -- 70 per cent )		
		of acreage )		
		Oct. 1-15 -- 20 per cent )		
		of acreage )		
	Threshing --	Sept. 1-30 -- 60 per cent )	50	4.5 acres
	by pick-up	of crop )		
	combine	Oct. 1-31 -- 40 per cent )		
		of crop )		
Grain	Harvesting	June -- 70 per cent of )	80	5 acres
		acreage )		
		July -- 30 per cent of )		
		acreage )		
Hay, other	Mowing	May -- all acreage	80	7.5 acres
than alfalfa	Raking	May -- all acreage	80	15 acres
	Shocking	May -- all acreage	80	30 acres
	Baling -- 50	May -- 50 per cent of job)	90	5 tons
	per cent of	June -- 50 per cent of job)		
	tonnage			
Rice	Cutting and	Sept. 15-30 -- 33 per cent )	50	10 acres
	windrowing	of acreage )		
	with header	Oct. 1-31 -- 66 per cent )		
		of acreage )		
	Threshing with	Sept. 15-30 -- 20 per cent )	50	4.5 acres
	pick-up com-	of acreage )		
	bine	Oct. 1-31 -- 80 per cent )		
		of acreage )		
	Picking up	Sept. 15-30 -- 20 per cent )	100	500 sacks
	sacks and	of crop )		
	hauling from	Oct. 1-31 -- 80 per cent )		
	field	of crop )		

Table continued on next page.



TABLE 2

Operations Requiring Use of Seasonal Labor and Time of Month by Crop  
Yolo County (Excluding Delta lands)

Crop	Operation	Time of need by month	Per cent of work done by seasonal help	Output per man-day
Field crops:				
Alfalfa	Mowing	Apr. 1 ( five-sevenths of )	88	7.5 acres*
	Baling	to	88	18 acres
	Shocking	Oct. 31 month	88	80 acres
	Baling --	Apr. 1 ( one-seventh of )	90	4 tons
	to	job ends		
	of crop	Oct. 31 month		
Beans	Hoisting --	July -- all acreage	100	3.5 acres
	once			
	lifting	Aug. 30-30 -- 10 per cent of acreage	100	3 acres
		Sept. 1-30 -- 70 per cent of acreage		
		Oct. 1-15 -- 20 per cent of acreage		
	Threshing --	Sept. 1-30 -- 80 per cent of crop	50	4.5 acres
	by pick-up	Oct. 1-31 -- 40 per cent of crop		
	combine			
Grain	Harvesting	June -- 70 per cent of acreage	80	3 acres
		July -- 30 per cent of acreage		
Hay, other than alfalfa	Mowing	May -- all acreage	80	7.5 acres
	Baling	May -- all acreage	80	18 acres
	Shocking	May -- all acreage	80	80 acres
	Baling -- 50 per cent of	May -- 50 per cent of job	80	5 tons
	tonnage	June -- 50 per cent of job		
Rice	Cutting and	Sept. 15-30 -- 35 per cent of acreage	50	10 acres
	windrowing	Oct. 1-31 -- 65 per cent of acreage		
	with header	Sept. 15-30 -- 20 per cent of acreage	50	4.5 acres
	Threshing with	Oct. 1-31 -- 80 per cent of acreage		
	pick-up com-	Sept. 15-30 -- 20 per cent of acreage		
	bine	Oct. 1-31 -- 80 per cent of acreage		
	Planting up	Sept. 15-30 -- 20 per cent of acreage	100	200 sacks
	sacks and bins	Oct. 1-31 -- 80 per cent of crop		
	hauling from			
	field			



Table 2 continued.

5.

Crop	Operation	Time of need by months	Per cent of work done by seasonal help	Output per man-day
Field crops: (cont.)				
Sugar beets	Thinning	Mar. -- 16 per cent of) acreage ) Apr. -- 66 per cent of) acreage ) May -- 18 per cent of) acreage )	100	0.5 acre
	Hoeing -- twice	May -- all of acreage ) June -- all of acreage )	100	1.5 acres
	Topping and loading	July -- 11 per cent of) crop ) Aug. -- 40 per cent of) crop ) Sept. -- 26 per cent of) crop ) Oct. -- 23 per cent of) crop )	100	6 tons
Hops	Training vines vines -- 3 times	May 1-31 -- 2 times on ) all acreage ) June 1-15 -- 1 time on ) all acreage )	70	Total of 6 man-days per acre (0.5 acre each time)
	Picking	Aug. 7-31 -- all of crop	100	200 pounds - green weight
	Drying	Aug. 7-31 -- all of crop	50	2,800 pounds green weight
	Baling	Sept. 1-7 -- all of crop	60	12 bales of 200 pounds dry weight
Vegetable crops:				
Lettuce (spring)	Thinning	Feb. -- all of acreage	100	0.5 acres
	Hoeing	Mar. -- all of acreage	100	1.0 acre
	Cutting	May 1-15 -- all of spring) crop )	100	21 crates (packed)
(fall)	Thinning	Sept. -- all of acreage	100	0.5 acre
	Hoeing	Oct. -- all of acreage	100	1.0 acre
	Cutting	Nov. 10-30 -- 50 per cent ) of fall crop ) Dec. 1-15 -- 50 per cent ) of fall crop )	100	21 packed crates
Melons -- honeydew	Planting with "job" planter	Apr. -- all acreage	100	2 acres
	Thinning and hoeing	May -- all acreage	100	1 acre
	Hoeing once	June 15-30 -- all acreage	100	2 acres
	Turning vines-- twice	May 15-30 -- all acreage ) July 1-15 -- all acreage )	100	1.5 acres
	Dusting -- 15 times	Apr. 20) at intervals of to ) 7 to 10 days Aug. 1 )	100	10 acres

Table continued on next page.



Date	Time	Description	Remarks	Signature
		<p>1. ...</p> <p>2. ...</p> <p>3. ...</p> <p>4. ...</p> <p>5. ...</p> <p>6. ...</p> <p>7. ...</p> <p>8. ...</p> <p>9. ...</p> <p>10. ...</p>		
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Table 2 continued.

Crop	Operation	Time of need, by months	Per cent of work done by seasonal help	Output per man-day
Vegetable crops (cont.)				
Melons -- Honeydew (cont.)	Picking	Aug. 1-31 -- 55 per cent of crop ) Sept. 1-30 -- 34 per cent of crop ) Oct. 1-20 -- 11 per cent of crop )	100	140 crates
Peas -- spring	Hoeing -- once	Feb. -- 50 per cent of acreage ) Mar. -- 50 per cent of acreage )	100	Varies greatly; average about 20 hours per acre
	Picking	Apr. -- 14 per cent of crop ) May -- 86 per cent of crop )	100	10 hampers
Tomatoes	Transplanting -- in beds	Feb. 15-28 -- all of job	80	5,000 plants <sup>†</sup>
	Hoeing -- twice	Apr. 20-30 -- all acreage ) May 1-15 -- all acreage )	100	2 acres
	Picking -- for shipping	Oct. 1-31 -- all of shipments	100	45 lugs of $\frac{1}{2}$ 50 pounds
	Picking -- for cannery	Aug. 15-31 -- 20 per cent of crop ) Sept. 1-30 -- 45 per cent of crop ) Oct. 1-31 -- 35 per cent of crop )	100	2,000 pounds
	Hauling -- to cannery	Aug. 15-31 -- 20 per cent of crop ) Sept. 1-30 -- 45 per cent of crop ) Oct. 1-31 -- 35 per cent of crop )	100	15 tons
Fruit and nut crops:				
Almonds	Knocking	Aug. 1-31 -- 50 per cent of crop ) Sept. 1-30 -- 50 per cent of crop )	100	(varies greatly) 275 pounds
	Hulling -- by machine	Aug. 1-31 -- 50 per cent of crop ) Sept. 1-30 -- 50 per cent of crop )	50	500 pounds
Apricots	Pruning	Nov. -- 75 per cent of acreage ) Dec. -- 25 per cent of acreage )	100	0.25 acre

Table continued on next page.



Date	Time	Description	Amount	Balance
1911	Jan 1	To Balance	100.00	100.00
1911	Jan 15	By Cash	50.00	150.00
1911	Feb 1	To Cash	25.00	175.00
1911	Mar 1	By Cash	75.00	250.00
1911	Apr 1	To Cash	100.00	350.00
1911	May 1	By Cash	150.00	500.00
1911	Jun 1	To Cash	200.00	700.00
1911	Jul 1	By Cash	250.00	950.00



Table 2 continued.

Crop	Operation	Time : of need . by months	Per cent of work done by seasonal help	Output per man-day
Fruit and nut crops (cont.) : Apricots (cont.)	Thinning	Apr. 15-30 -- 50 per cent of acreage )	100	0.5 acre
		May 1-15 -- 50 per cent of acreage )		
	Picking	June 15-30 -- 70 per cent of crop )	100	1,000 pounds
		July 1-15 -- 30 per cent of crop )		
	Cutting for drying	June 15-30 -- 70 per cent of crop )	100	600 pounds
		July 1-15 -- 30 per cent of crop )		
	Other dry-yard labor	June 15-30 -- 60 per cent of job )	100	11 hours per fresh ton
		July 1-20 -- 40 per cent of job )		
Figs	Picking (for fresh shipment) -- first crop	June -- 20 per cent of shipments )	100	15 flats of 12 pounds = 180 pounds
		July -- 80 per cent of shipments )		
	Picking up for drying -- second crop	Aug. 15-31 -- one-third of crop )	100	500 pounds
		Sept. 1-30 -- two-thirds of crop )		
	Gassing, drying, sorting, and sacking	Aug. 15-31 -- 25 per cent of job )	75	40 hours per dry ton
		Sept. 1-30 -- 50 per cent of job )		
		Oct. 1-15 -- 25 per cent of job )		
Grapes	Pruning	Dec. -- 25 per cent of acreage )	100	0.66 acre
		Jan. -- 25 per cent of acreage )		
		Feb. -- 25 per cent of acreage )		
		Mar. -- 25 per cent of acreage )		
	Picking and packing for shipment	Sept. 1-30 -- 60 per cent of crop )	100	25 lugs of 31 pounds = 775 pounds
		Oct. 1-31 -- 40 per cent of crop )		
	Picking for juice	Sept. -- 60 per cent of crop )	100	1.5 tons
		Oct. -- 40 per cent of crop )		
Olives	Picking for pickling	Dec. 1-20 -- all of job	100	300 pounds

Table continued on next page.



No. of Cattle	No. of Horses	No. of Pigs	No. of Sheep	No. of Goats
100	50	200	150	100
150	75	300	225	150
200	100	400	300	200
250	125	500	375	250
300	150	600	450	300
350	175	700	525	350
400	200	800	600	400
450	225	900	675	450



Table 2 continued.

Crop	Operation	Time : of need by months	Per cent of work done by seasonal help	Output per man-day
Fruit and nut crops (cont.): Olives (cont.)  Peachos	Picking for oil	Dec.15-30 -- one-third of job ) Jan. 1-31 -- two-thirds of job )	100	500 pounds
	Pruning	Nov.) 25 per cent of Dec.) acreage each Jan.) month Feb.)	100	0.25 acre
	Thinning	Apr.15-30 -- 50 per cent ) of acreage ) May 1-15 -- 50 per cent ) of acreage )	100	0.25 acre
	Picking	July 20-31 -- 10 per cent ) of crop ) Aug.1-31 -- 80 per cent ) of crop ) Sept.1-15 -- 10 per cent ) of crop )	100	3,000 pounds
	Cutting for drying	July 20-31 -- 20 per cent ) of job ) Aug. 1-31 -- 80 per cent ) of job )	100	2,000 pounds
	Other dry-yard work	July 20-31 -- 10 per cent ) of job ) Aug. 1-31 -- 80 per cent ) of job ) Sept.1-10 -- 10 per cent ) of job )	100	11.5 hours per fresh ton dried
	Pears	Pruning	Dec.) one-third of acre- Jan.) age each month Feb.)	0.20 acres
	Brush burning	Same time as pruning	100	4 acres
	Picking	July 24-31 -- 5 per cent ) of crop ) Aug. 1-31 -- 90 per cent ) of crop ) Sept. 1-7 -- 5 per cent ) of crop )	100	1,400 pounds
	Plums	Pruning	Dec.) 25 per cent of Jan.) acreage each month Feb.) Mar.)	0.5 acre
	Thinning	Apr.15-30 -- 50 per cent ) of job ) May 1-15 -- 50 per cent ) of job )	100	0.33 acre

Table continued on next page.







Table 2 continued.

Crop	Operation	Time of need by months	Per cent of work done by seasonal help	Output per man-day
Fruit and nut crops (cont.): Plums (cont.)	Picking	June -- 10 per cent of) crop ) July -- 90 per cent of) crop )	100	1,200 pounds
Prunes	Pruning -- 50 per cent of acreage	Oct.) one-third of acre- Nov.) age each month Dec.)	100	0.25 acre
	Burning brush	Same time as pruning	100	4 acres
	Picking up	Aug.15-31 -- 25 per cent) of crop ) Sept.1-30 -- 75 per cent) of crop )	100	1,500 pounds
	Dipping and drying	Aug.15-31 -- 25 per cent) of crop ) Sept.1-30 -- 75 per cent) of crop )	100	8.3 hours per fresh ton dried
Walnuts	Harvesting    (including hulling) -- 50 per cent of acreage	Sept.1-30 -- 50 per cent) of crop ) Oct. 1-31 -- 50 per cent) of crop )	80	200 pounds

\* The use of power-drawn mowers is increasing with a consequent decrease in the amount of labor needed. Some of these machines can cut 30 acres per day.

† Figure on 1,200 plants per acre plus about 20 per cent for replanting.

‡ Tomatoes estimated to pack out 1 lug for every field lug of 50 pounds.

§ From Christio, A. W. and L. C. Barnard. The principles and practice of sun-drying fruit. California Agr. Exp. Sta. Bul. 388:40-60. 1925.

¶ A few olives are sometimes picked in September for green pickling.

|| Walnuts are grown mostly in small acreages, border trees, etc., much of the harvesting being done by owners. Seasonal labor estimated to be used on about 50 per cent of the acreage only.

Findings of Seasonal Labor Needs.-- Details and summaries of seasonal labor requirements of Yolo County agriculture are presented as table 3. The "size of task" are figures drawn from table 1, in terms of either acreage or output in tons, crates, boxes, or whatever unit is commonly used. The "output per man-day" is an average figure for the entire acreage or output figured in crates, hampers, boxes, or other units as indicated in the table. If the work is of a nature that requires a crew different members of which perform different tasks, then the average shown is per man based on the entire crew. Length of day is 9 hours, November to February; 10 hours March to October, unless otherwise stated. Wide variations in output







occur between farm and farm, field and field, and season and season, because of differences in soil types, climatic conditions, weeds, yields, and other factors influencing the amount of work that a laborer can perform in a given day. Moreover, the basis of output is a mature, experienced male worker without reference to use of women, children, and more or less inexperienced help that is sometimes used in connection with certain of the tasks requiring use of seasonal workers. The column headed "available days" reflects (a) limitations set from the period within which the work must be performed because of the nature of the task, such as transplanting, thinning, weeding, and cutting, and (b) available days as determined by weather conditions, inclement weather reducing the number of days when a required task can be performed. The "required number of individuals" is given in terms of workers as noted above in connection with "output per man-day."

It is probable that the estimated number of workers required, as recorded in table 3, will often be too low, for the reason that "peaks" frequently occur, during which an unusually large proportion of the job is done in a very short period. This would naturally require a much greater number of workers than when the work is spread over a longer period, even though the total amount of labor (in man-days) remains the same.







TABLE 3

## Seasonal Labor Needs -- Yolo County -- by Months and Tasks

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
January	Grapes: Pruning	550 acres	0.66 acre	833	18	47
	Olives: Picking for oil	197 tons	500 pounds	788	18	44
	Peaches: Pruning	367 acres	0.25 acre	1,468	18	82
	Pears: Pruning	167 acres	0.20 acre	835	18	47
	Burning brush	167 acres	4.0 acres	42	18	3
	Plums: Pruning	112 acres	0.5 acre	224	18	13
	Totals			4,190	18	233 man-months
February	Lettuce (spring): Thinning	600 acres	0.5 acre	1,200	20	60
	Peas (spring): Hoeing (once)	300 acres †	0.45 acre	667	20	34
	Tomatoes: Transplanting †	3,456,000 plants	5,000 plants	692	10	70 (Feb. 15-28)
	Grapes: Pruning	550 acres	0.66 acre	833	20	42
	Peaches: Pruning	367 acres	0.25 acre	1,468	20	74
	Pears: Pruning	167 acres	0.20 acre	835	20	42
	Burning brush	167 acres	4.0 acres	42	20	2
March	Plums: Pruning	113 acres	0.5 acre	226	20	12
	Totals			5,963	20	299 man-months
	Sugar beets: Thinning	2,390 acres	0.5 acre	4,780	22	217
	Lettuce (spring): Hoeing	600 acres	1.0 acre	600	22	28
	Peas (spring): Hoeing	300 acres	0.5 acre	600	22	28
	Grapes: Pruning	550 acres	0.66 acre	833	22	38
	Plums: Pruning	113 acres	0.5 acre	226	22	11
April	Totals			7,039	22	320 man-months
	Alfalfa: Mowing †	6,130 acres	7.5 acres	817	22	38
	Raking †	6,130 acres	15.0 acres	409	22	19
	Shocking (with rake) †	6,130 acres	30.0 acres	204	22	10
	Baling †	7,100 tons	4.0 tons	1,775	22	81
	Sugar beets: Thinning	9,857 acres	0.5 acre	19,714	22	896
	Melons (honeydew): Planting with "job" planter	300 acres	2.0 acres	150	22	7
	Dusting (twice)	600 acres	10.0 acres	60	8	8 (Apr. 20-30)
	Peas (spring): Packing	6,300 hampers	10.0 hampers	630	10	63 (for 10 days)
	Tomatoes: Hoeing	3,000 acres	2.0 acres	1,500	8	189 (Apr. 20-30)
	Apricots: Thinning	1,100 acres	0.5 acre	2,200	22	100

Table continued on next page.





Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
April (cont.)	Peaches: Thinning	734 acres	0.25 acre	2,936	11	267 (Apr. 15-30)
	Plums: Thinning	225 acres	0.33 acre	682	11	62 (Apr. 15-30)
	Totals			31,077	22	1,413 man-months
May	Alfalfa: Mowing†	6,130 acres	7.5 acres	817	25	33
	Raking†	6,130 acres	15.0 acres	409	25	17
	Shocking (with rake)†	6,130 acres	30.0 acres	204	25	9
	Baling†	7,100 tons	4.0 tons	1,775	25	71
	Hay (other than alfalfa): Mowing†	7,200 acres	7.5 acres	960	25	39
	Raking†	7,200 acres	15.0 acres	480	25	20
	Shocking (with rake)†	7,200 acres	30.0 acres	240	25	10
	Baling†	2,700 tons	5.0 tons	540	25	22
	Sugar beets: Thinning	2,688 acres	0.5 acre	5,376	25	216
	Hoeing (twice)	14,935 acres	1.5 acres	9,957	25	399
	Hops: Training vines (twice)†	560 acres	0.5 acre	1,120	25	45
	Lettuce (spring): Cutting	120,000 crates	21.0 crates	5,715	12	477 (May 1-15)
	Melons (honeydew): Thinning and hoeing	300 acres	1.0 acre	300	25	12
	Turning vines	300 acres	1.5 acres	200	13	15 (May 15-31)
	Dusting (five times)	1,500 acres	10.0 acres	150	25	6
	Peas (spring): Picking	38,700 hampers	10.0 hampers	3,870	25	155
	Tomatoes: Hoeing	3,000 acres	2.0 acres	1,500	12	125 (May 1-15)
	Apricots: Thinning	1,100 acres	0.5 acre	2,200	12	184 (May 1-15)
	Peaches: Thinning	734 acres	0.25 acre	2,936	12	245 (May 1-15)
	Plums: Thinning	225 acres	0.33 acre	682	12	53 (May 1-15)
	Totals			39,431	25	1,578 man-months
June	Alfalfa: Mowing†	6,130 acres	7.5 acres	817	26	32
	Raking†	6,130 acres	15.0 acres	409	26	16
	Shocking (with rake)†	6,130 acres	30.0 acres	204	26	8
	Baling†	7,100 tons	4.0 tons	1,775	26	69
	Grain: Harvesting†	71,680 acres	5.0 acres	14,336	26	568
	Hay (other than alfalfa): Baling†	2,700 tons	5.0 tons	540	26	21
	Sugar beets: Hoeing (twice)	14,935 acres	1.5 acres	9,957	26	384
	Hops: Training vines (once)†	280 acres	0.5 acre	560	13	43 (June 1-15)
	Melons (honeydew): Hoeing (once)	300 acres	2.0 acres	150	13	12 (June 15-30)
	Dusting (four times)	1,200 acres	10.0 acres	120	26	5
	Apricots: Picking	2,113 tons	1,000 pounds	4,226	13	327 (June 15-30)

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<p>1914</p>	<p>1914</p>	<p>1914</p>	<p>1914</p>	<p>1914</p>	<p>1914</p>	<p>1914</p>
<p>1915</p>	<p>1915</p>	<p>1915</p>	<p>1915</p>	<p>1915</p>	<p>1915</p>	<p>1915</p>
<p>1916</p>	<p>1916</p>	<p>1916</p>	<p>1916</p>	<p>1916</p>	<p>1916</p>	<p>1916</p>
<p>1917</p>	<p>1917</p>	<p>1917</p>	<p>1917</p>	<p>1917</p>	<p>1917</p>	<p>1917</p>

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
June (cont.)	Apricots (cont.): Cutting for drying	1,366 tons	600 pounds	4,553	13	351 (June 15-30)
	Other dry-yard labor	1,171 tons	9	1,301	13	100 (June 15-30)
	Figs: Picking (for fresh shipment -- first crop)	2,760 flats	15.0 flats	184	26	8
	Plums: Picking	13 tons	1,200 pounds	22	26	1
	Totals			39,154	26	1,506 man-months
July	Alfalfa: Mowing †	6,130 acres	7.5 acres	817	26	32
	Raking †	6,130 acres	15.0 acres	409	26	16
	Shocking (with rake) †	6,130 acres	30.0 acres	204	26	8
	Baling †	7,100 tons	4.0 tons	1,775	26	69
	Beans: Hoeing (once)	1,000 acres	2.5 acres	400	26	16
	Grain: Harvesting †	30,720 acres	5.0 acres	6,144	26	237
	Sugar beets: Topping and loading	24,643 tons	6.0 tons	4,107	26	159
	Melons (honeydew): Turning vines	300 acres	1.5 acres	200	13	16 (July 1-15)
	Dusting (four times)	1,200 acres	10.0 acres	120	26	5
	Apricots: Picking	905 tons	1,000 pounds	1,810	13	140 (July 1-15)
	Cutting for drying	586 tons	600 pounds	1,953	13	151 (July 1-15)
	Other dry-yard labor	781 tons	9	868	17	52 (July 1-20)
	Figs: Picking (for fresh shipment-- first crop)	11,040 flats	15.0 flats	736	26	29
	Peaches: Picking	689 tons	3,000 pounds	459	9	51 (July 20-31)
	Cutting for drying	566 tons	2,000 pounds	566	9	63 (July 20-31)
	Other dry yard work	283 tons	9	325	9	37 (July 20-31)
	Pears: Picking	25 tons	1,400 pounds	36	6	6 (July 24-31)
	Plums: Picking	117 tons	1,200 pounds	195	26	8
	Totals			21,124	26	813 man-months
August	Alfalfa: Mowing †	6,130 acres	7.5 acres	817	26	32
	Raking †	6,130 acres	15.0 acres	409	26	16
	Shocking (with rake) †	6,130 acres	30.0 acres	204	26	8
	Baling †	7,100 tons	4.0 tons	1,775	26	69
	Beans: Piling	100 acres	2.0 acres	50	9	6 (Aug. 20-31)
	Sugar beets: Topping and loading	89,610 tons	6.0 tons	14,935	26	575
	Hops: Picking	2,880,000 pounds	200 pounds	14,400	21	686 (Aug. 7-31)
	Drying †	1,440,000 lbs. †	2,800 pounds †	514	21	25
	Melons (honeydew): Picking	52,800 crates	140 crates	378	26	15
	Tomatoes: Picking for cannery	4,480 tons	1.0 ton	4,480	13	345 (Aug. 15-31)

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Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
August (cont.)	Tomatoes (cont.): Hauling to cannery	4,480 tons	15.0 tons	299	13	23 (Aug. 15-31)
	Almonds: Knocking	648 tons	27.5 pounds	4,628	26	178
	Hulling (by machine) †	324 tons	500 pounds	1,296	26	50
	Figs: Picking up for drying (second crop)	300 tons	0.25 tons	1,200	13	93 (Aug. 15-31)
	Gessing, drying, sorting, and sacking †	169 tons	6	676	13	52 (Aug. 15-31)
	Peaches: Picking	5,512 tons	3,000 pounds	3,675	26	142
	Cutting for drying	2,264 tons	2,000 pounds	2,264	26	88
	Other dry yard work	2,264 tons	6	2,602	26	101
	Pears: Picking	450 tons	1,400 pounds	643	26	25
	Prunes: Picking up	1,884 tons	1,500 pounds	2,512	13	194 (Aug. 15-31)
	Dipping and drying	1,884 tons	6	1,570	13	121 (Aug. 15-31)
	Totals			59,327	26	2,282 men-months
September	Alfalfa: Mowing †	6,130 acres	7.5 acres	817	26	32
	Raking †	6,130 acres	15.0 acres	409	26	16
	Shocking (with reke) †	6,130 acres	30.0 acres	204	26	8
	Baling †	7,100 tons	4.0 tons	1,775	26	69
	Beans: Piling	700 acres	2.0 acres	350	26	14
	Threshing † (by pick-up combine)	300 acres	4.5 acres	67	26	3
	Rice: Cutting and windrowing with header †	1,568 acres	10.0 acres	157	13	13 (Sept. 15-30)
	Threshing (with pick-up combine) †	950 acres	4.5 acres	211	13	17 (Sept. 15-30)
	Picking up sacks and hauling from field	66,500 sacks	500 sacks	133	13	11 (Sept. 15-30)
	Sugar beets: Topping and loading	58,246 tons	6.0 tons	9,708	26	374
	Hops: Baling †	2,160 bales	12.0 bales	180	6	30 (Sept. 1-7)
	Lettuce (fall): Thinning	500 acres	0.5 acre	1,000	26	39
	Melons (honeydew): Picking	32,640 crates	140 crates	234	26	9
	Tomatoes: Picking for cannery	10,080 tons	1.0 ton	10,080	26	389
	Hauling to cannery	10,080 tons	15.0 tons	672	26	26
	Almonds: Knocking	647 tons	275 pounds	4,621	26	178
	Hulling (by machine) †	324 tons	500 pounds	1,296	26	50
	Figs: Picking up for drying (second crop)	600 tons	500 pounds	2,400	26	93

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Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
September (cont.)	Figs (cont.): Gassing, drying, sorting, and sacking †	337 tons	¢	1,348	26	49
	Grapes: Picking and packing for shipment	69,600 lugs	25.0 lugs	2,784	26	108
	Packing for juice	4,170 tons	1.5 tons	2,780	26	107
	Peaches: Picking	689 tons	3,000 pounds	459	13	36 (Sept. 1-15)
	Other dry yard work	283 tons	¢	325	9	37 (Sept. 1-10)
	Pears: Picking	25 tons	1,400 pounds	36	6	6 (Sept. 1-7)
	Prunes: Picking up	5,654 tons	1,500 pounds	7,538	26	291
	Dipping and drying	5,654 tons	¢	4,712	26	182
	Walnuts: Harvesting (including hulling) †	64,530 pounds	200 pounds	323	26	13
	Totals			54,619	26	2,101 man-months
October	Alfalfa: Mowing †	6,130 acres	7.5 acres	817	24	35
	Raking †	6,130 acres	15.0 acres	409	24	18
	Shocking (with rake) †	6,130 acres	30.0 acres	204	24	9
	Baling †	7,100 tons	4.0 tons	1,775	24	74
	Beans: Piling	200 acres	2.0 acres	100	12	9 (Oct. 20-30)
	Threshing (by pick-up combine) †	200 acres	4.5 acres	44	24	2
	Rice: Cutting and windrowing with header †	3,182 acres	10.0 acres	318	24	13
	Threshing (with pick-up combine) †	3,800 acres	4.5 acres	844	24	36
	Picking up sacks and hauling from field	266,000 sacks	500 sacks	532	24	23
	Sugar beets: Topping and loading	51,526 tons	6.0 tons	8,588	24	359
	Lettuce (fall): Hoeing	500 acres	1.0 acre	500	24	21
	Melons (honeydew): Picking	10,560 crates	140 crates	76	12	7 (Oct. 1-20)
	Tomatoes: Picking for shipping	11,200 lugs	45.0 lugs	249	24	11
	Picking for cannery	7,840 tons	1.0 ton	7,840	24	327
	Hauling to cannery	7,840 tons	15.0 tons	523	24	22
	Figs: Gassing, drying, sorting, and sacking †	169 tons	¢	676	24	29
	Grapes: Picking and packing for shipment	46,400 lugs	25.0 lugs	1,856	24	78
	Picking for juice	2,780 tons	1.5 tons	1,854	24	78

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1. 1941	2. 1942	3. 1943	4. 1944	5. 1945	6. 1946	7. 1947	8. 1948	9. 1949	10. 1950	11. 1951	12. 1952	13. 1953	14. 1954	15. 1955	16. 1956	17. 1957	18. 1958	19. 1959	20. 1960	21. 1961	22. 1962	23. 1963	24. 1964	25. 1965	26. 1966	27. 1967	28. 1968	29. 1969	30. 1970	31. 1971	32. 1972	33. 1973	34. 1974	35. 1975	36. 1976	37. 1977	38. 1978	39. 1979	40. 1980	41. 1981	42. 1982	43. 1983	44. 1984	45. 1985	46. 1986	47. 1987	48. 1988	49. 1989	50. 1990	51. 1991	52. 1992	53. 1993	54. 1994	55. 1995	56. 1996	57. 1997	58. 1998	59. 1999	60. 2000	61. 2001	62. 2002	63. 2003	64. 2004	65. 2005	66. 2006	67. 2007	68. 2008	69. 2009	70. 2010	71. 2011	72. 2012	73. 2013	74. 2014	75. 2015	76. 2016	77. 2017	78. 2018	79. 2019	80. 2020	81. 2021	82. 2022	83. 2023	84. 2024	85. 2025	86. 2026	87. 2027	88. 2028	89. 2029	90. 2030	91. 2031	92. 2032	93. 2033	94. 2034	95. 2035	96. 2036	97. 2037	98. 2038	99. 2039	100. 2040	101. 2041	102. 2042	103. 2043	104. 2044	105. 2045	106. 2046	107. 2047	108. 2048	109. 2049	110. 2050	111. 2051	112. 2052	113. 2053	114. 2054	115. 2055	116. 2056	117. 2057	118. 2058	119. 2059	120. 2060	121. 2061	122. 2062	123. 2063	124. 2064	125. 2065	126. 2066	127. 2067	128. 2068	129. 2069	130. 2070	131. 2071	132. 2072	133. 2073	134. 2074	135. 2075	136. 2076	137. 2077	138. 2078	139. 2079	140. 2080	141. 2081	142. 2082	143. 2083	144. 2084	145. 2085	146. 2086	147. 2087	148. 2088	149. 2089	150. 2090	151. 2091	152. 2092	153. 2093	154. 2094	155. 2095	156. 2096	157. 2097	158. 2098	159. 2099	160. 2100	161. 2101	162. 2102	163. 2103	164. 2104	165. 2105	166. 2106	167. 2107	168. 2108	169. 2109	170. 2110	171. 2111	172. 2112	173. 2113	174. 2114	175. 2115	176. 2116	177. 2117	178. 2118	179. 2119	180. 2120	181. 2121	182. 2122	183. 2123	184. 2124	185. 2125	186. 2126	187. 2127	188. 2128	189. 2129	190. 2130	191. 2131	192. 2132	193. 2133	194. 2134	195. 2135	196. 2136	197. 2137	198. 2138	199. 2139	200. 2140	201. 2141	202. 2142	203. 2143	204. 2144	205. 2145	206. 2146	207. 2147	208. 2148	209. 2149	210. 2150	211. 2151	212. 2152	213. 2153	214. 2154	215. 2155	216. 2156	217. 2157	218. 2158	219. 2159	220. 2160	221. 2161	222. 2162	223. 2163	224. 2164	225. 2165	226. 2166	227. 2167	228. 2168	229. 2169	230. 2170	231. 2171	232. 2172	233. 2173	234. 2174	235. 2175	236. 2176	237. 2177	238. 2178	239. 2179	240. 2180	241. 2181	242. 2182	243. 2183	244. 2184	245. 2185	246. 2186	247. 2187	248. 2188	249. 2189	250. 2190	251. 2191	252. 2192	253. 2193	254. 2194	255. 2195	256. 2196	257. 2197	258. 2198	259. 2199	260. 2200	261. 2201	262. 2202	263. 2203	264. 2204	265. 2205	266. 2206	267. 2207	268. 2208	269. 2209	270. 2210	271. 2211	272. 2212	273. 2213	274. 2214	275. 2215	276. 2216	277. 2217	278. 2218	279. 2219	280. 2220	281. 2221	282. 2222	283. 2223	284. 2224	285. 2225	286. 2226	287. 2227	288. 2228	289. 2229	290. 2230	291. 2231	292. 2232	293. 2233	294. 2234	295. 2235	296. 2236	297. 2237	298. 2238	299. 2239	300. 2240	301. 2241	302. 2242	303. 2243	304. 2244	305. 2245	306. 2246	307. 2247	308. 2248	309. 2249	310. 2250	311. 2251	312. 2252	313. 2253	314. 2254	315. 2255	316. 2256	317. 2257	318. 2258	319. 2259	320. 2260	321. 2261	322. 2262	323. 2263	324. 2264	325. 2265	326. 2266	327. 2267	328. 2268	329. 2269	330. 2270	331. 2271	332. 2272	333. 2273	334. 2274	335. 2275	336. 2276	337. 2277	338. 2278	339. 2279	340. 2280	341. 2281	342. 2282	343. 2283	344. 2284	345. 2285	346. 2286	347. 2287	348. 2288	349. 2289	350. 2290	351. 2291	352. 2292	353. 2293	354. 2294	355. 2295	356. 2296	357. 2297	358. 2298	359. 2299	360. 2300	361. 2301	362. 2302	363. 2303	364. 2304	365. 2305	366. 2306	367. 2307	368. 2308	369. 2309	370. 2310	371. 2311	372. 2312	373. 2313	374. 2314	375. 2315	376. 2316	377. 2317	378. 2318	379. 2319	380. 2320	381. 2321	382. 2322	383. 2323	384. 2324	385. 2325	386. 2326	387. 2327	388. 2328	389. 2329	390. 2330	391. 2331	392. 2332	393. 2333	394. 2334	395. 2335	396. 2336	397. 2337	398. 2338	399. 2339	400. 2340	401. 2341	402. 2342	403. 2343	404. 2344	405. 2345	406. 2346	407. 2347	408. 2348	409. 2349	410. 2350	411. 2351	412. 2352	413. 2353	414. 2354	415. 2355	416. 2356	417. 2357	418. 2358	419. 2359	420. 2360	421. 2361	422. 2362	423. 2363	424. 2364	425. 2365	426. 2366	427. 2367	428. 2368	429. 2369	430. 2370	431. 2371	432. 2372	433. 2373	434. 2374	435. 2375	436. 2376	437. 2377	438. 2378	439. 2379	440. 2380	441. 2381	442. 2382	443. 2383	444. 2384	445. 2385	446. 2386	447. 2387	448. 2388	449. 2389	450. 2390	451. 2391	452. 2392	453. 2393	454. 2394	455. 2395	456. 2396	457. 2397	458. 2398	459. 2399	460. 2400	461. 2401	462. 2402	463. 2403	464. 2404	465. 2405	466. 2406	467. 2407	468. 2408	469. 2409	470. 2410	471. 2411	472. 2412	473. 2413	474. 2414	475. 2415	476. 2416	477. 2417	478. 2418	479. 2419	480. 2420	481. 2421	482. 2422	483. 2423	484. 2424	485. 2425	486. 2426	487. 2427	488. 2428	489. 2429	490. 2430	491. 2431	492. 2432	493. 2433	494. 2434	495. 2435	496. 2436	497. 2437	498. 2438	499. 2439	500. 2440	501. 2441	502. 2442	503. 2443	504. 2444	505. 2445	506. 2446	507. 2447	508. 2448	509. 2449	510. 2450	511. 2451	512. 2452	513. 2453	514. 2454	515. 2455	516. 2456	517. 2457	518. 2458	519. 2459	520. 2460	521. 2461	522. 2462	523. 2463	524. 2464	525. 2465	526. 2466	527. 2467	528. 2468	529. 2469	530. 2470	531. 2471	532. 2472	533. 2473	534. 2474	535. 2475	536. 2476	537. 2477	538. 2478	539. 2479	540. 2480	541. 2481	542. 2482	543. 2483	544. 2484	545. 2485	546. 2486	547. 2487	548. 2488	549. 2489	550. 2490	551. 2491	552. 2492	553. 2493	554. 2494	555. 2495	556. 2496	557. 2497	558. 2498	559. 2499	560. 2500	561. 2501	562. 2502	563. 2503	564. 2504	565. 2505	566. 2506	567. 2507	568. 2508	569. 2509	570. 2510	571. 2511	572. 2512	573. 2513	574. 2514	575. 2515	576. 2516	577. 2517	578. 2518	579. 2519	580. 2520	581. 2521	582. 2522	583. 2523	584. 2524	585. 2525	586. 2526	587. 2527	588. 2528	589. 2529	590. 2530	591. 2531	592. 2532	593. 2533	594. 2534	595. 2535	596. 2536	597. 2537	598. 2538	599. 2539	600. 2540	601. 2541	602. 2542	603. 2543	604. 2544	605. 2545	606. 2546	607. 2547	608. 2548	609. 2549	610. 2550	611. 2551	612. 2552	613. 2553	614. 2554	615. 2555	616. 2556	617. 2557	618. 2558	619. 2559	620. 2560	621. 2561	622. 2562	623. 2563	624. 2564	625. 2565	626. 2566	627. 2567	628. 2568	629. 2569	630. 2570	631. 2571	632. 2572	633. 2573	634. 2574	635. 2575	636. 2576	637. 2577	638. 2578	639. 2579	640. 2580	641. 2581	642. 2582	643. 2583	644. 2584	645. 2585	646. 2586	647. 2587	648. 2588	649. 2589	650. 2590	651. 2591	652. 2592	653. 2593	654. 2594	655. 2595	656. 2596	657. 2597	658. 2598	659. 2599	660. 2600	661. 2601	662. 2602	663. 2603	664. 2604	665. 2605	666. 2606	667. 2607	668. 2608	669. 2609	670. 2610	671. 2611	672. 2612	673. 2613	674. 2614	675. 2615	676. 2616	677. 2617	678. 2618	679. 2619	680. 2620	681. 2621	682. 2622	683. 2623	684. 2624	685. 2625	686. 2626	687. 2627	688. 2628	689. 2629	690. 2630	691. 2631	692. 2632	693. 2633	694. 2634	695. 2635	696. 2636	697. 2637	698. 2638	699. 2639	700. 2640	701. 2641	702. 2642	703. 2643	704. 2644	705. 2645	706. 2646	707. 2647	708. 2648	709. 2649	710. 2650	711. 2651	712. 2652	713. 2653	714. 2654	715. 2655	716. 2656	717. 2657	718. 2658	719. 2659	720. 2660	721. 2661	722. 2662	723. 2663	724. 2664	725. 2665	726. 2666	727. 2667	728. 2668	729. 2669	730. 2670	731. 2671	732. 2672	733. 2673	734. 2674	735. 2675	736. 2676	737. 2677	738. 2678	739. 2679	740. 2680	741. 2681	742. 2682	743. 2683	744. 2684	745. 2685	746. 2686	747. 2687	748. 2688	749. 2689	750. 2690	751. 2691	752. 2692	753. 2693	754. 2694	755. 2695	756. 2696	757. 2697	758. 2698	759. 2699	760. 2700	761. 2701	762. 2702	763. 2703	764. 2704	765. 2705	766. 2706	767. 2707	768. 2708	769. 2709	770. 2710	771. 2711	772. 2712	773. 2713	774. 2714	775. 2715	776. 2716	777. 2717	778. 2718	779. 2719	780. 2720	781. 2721	782. 2722	783. 2723	784. 2724	785. 2725	786. 2726	787. 2727	788. 2728	789. 2729	790. 2730	791. 2731	792. 2732	793. 2733	794. 2734	795. 2735	796. 2736	797. 2737	798. 2738	799. 2739	800. 2740	801. 2741	802. 2742	803. 2743	804. 2744	805. 2745	806. 2746	807. 2747	808. 2748	809. 2749	810. 2750	811. 2751	812. 2752	813. 2753	814. 2754	815. 2755	816. 2756	817. 2757	818. 2758	819. 2759	820. 2760	821. 2761	822. 2762	823. 2763	824. 2764	825. 2765	826. 2766	827. 2767	828. 2768	829. 2769	830. 2770	831. 2771	832. 2772	833. 2773	834. 2774	835. 2775	836. 2776	837. 2777	838. 2778	839. 2779	840. 2780	841. 2781	842. 2782	843. 2783	844. 2784	845. 2785	846. 2786	847. 2787	848. 2788	849. 2789	850. 2790	851. 2791	852. 2792	853. 2793	854. 2794	855. 2795	856. 2796	857. 2797	858. 2798	859. 2799	860. 2800	861. 2801	862. 2802	863. 2803	864. 2804	865. 2805	866. 2806	867. 2807	868. 2808	869. 2809	870. 2810	871. 2811	872. 2812	873. 2813	874. 2814	875. 2815	876. 2816	877. 2817	878. 2818	879. 2819	880. 2820	881. 2821	882. 2822	883. 2823	884. 2824	885. 2825	886. 2826	887. 2827	888. 2828	889. 2829	890. 2830
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Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
October (cont.)	Prunes: Pruning	383 acres	0.25 acre	1,532	24	64
	Burning brush	383 acres	4.0 acres	96	24	4
	Walnuts: Harvesting (including hulling)†	64,530 pounds	200 pounds	323	24	14
	Totals			29,156	24	1,215 man-months
November	Lettuce (fall): Cutting	50,000 crates	21 crates	2,381	16	149 (Nov. 10-30)
	Apricots: Pruning	1,650 acres	0.25 acre	6,600	23	287
	Peaches: Pruning	367 acres	0.25 acre	1,468	23	64
	Prunes: Pruning	383 acres	0.25 acre	1,532	23	67
	Burning brush	383 acres	4.0 acres	96	23	5
	Totals			12,077	23	526 man-months
December	Lettuce (fall): Cutting	50,000 crates	21 crates	2,381	9	265 (Dec. 1-15)
	Apricots: Pruning	550 acres	0.25 acres	2,200	18	122
	Grapes: Pruning	550 acres	0.66 acre	833	18	46
	Olives: Picking for pickling	264 tons	300 pounds	1,760	12	147 (Dec. 1-20)
	Picking for oil	93 tons	500 pounds	372	9	42 (Dec. 15-31)
	Peaches: Pruning	367 acres	0.25 acre	1,468	18	82
	Pears: Pruning	166 acres	0.20 acre	830	18	47
	Burning brush	166 acres	4.0 acres	42	18	3
	Plums: Pruning	112 acres	0.5 acre	224	18	13
	Prunes: Pruning	384 acres	0.25 acre	1,536	18	86
	Burning brush	384 acres	4.0 acres	96	18	6
	Totals			11,742	18	653 man-months

\* On a monthly basis unless otherwise noted.

† Indicates task is performed by less than 100 per cent seasonal help.

‡ Twenty per cent added to care for replanting.

§ Dry-yard labor, other than cutting, estimated as follows:

Apricots -- 11 man-hours per fresh ton.  
 Figs -- 40 man-hours per dry ton.  
 Peaches -- 11.5 man-hours per fresh ton.  
 Prunes -- 8.3 man-hours per fresh ton.

¶ Green weight.

|| Dry weight 200 pounds to bale.



1. The first part of the report is a summary of the work done during the year. This includes a list of the projects completed, a description of the work done on each project, and a summary of the results of the work.

2. The second part of the report is a detailed description of the work done on each project. This includes a description of the objectives of the project, a description of the methods used, and a description of the results of the work.

3. The third part of the report is a summary of the work done during the year. This includes a list of the projects completed, a description of the work done on each project, and a summary of the results of the work.

Project Name		Project Description		Project Status		Project Budget		Project Results	
Project A		Project A Description		Project A Status		Project A Budget		Project A Results	
Project B		Project B Description		Project B Status		Project B Budget		Project B Results	
Project C		Project C Description		Project C Status		Project C Budget		Project C Results	
Project D		Project D Description		Project D Status		Project D Budget		Project D Results	
Project E		Project E Description		Project E Status		Project E Budget		Project E Results	
Project F		Project F Description		Project F Status		Project F Budget		Project F Results	
Project G		Project G Description		Project G Status		Project G Budget		Project G Results	
Project H		Project H Description		Project H Status		Project H Budget		Project H Results	
Project I		Project I Description		Project I Status		Project I Budget		Project I Results	
Project J		Project J Description		Project J Status		Project J Budget		Project J Results	
Project K		Project K Description		Project K Status		Project K Budget		Project K Results	
Project L		Project L Description		Project L Status		Project L Budget		Project L Results	
Project M		Project M Description		Project M Status		Project M Budget		Project M Results	
Project N		Project N Description		Project N Status		Project N Budget		Project N Results	
Project O		Project O Description		Project O Status		Project O Budget		Project O Results	
Project P		Project P Description		Project P Status		Project P Budget		Project P Results	
Project Q		Project Q Description		Project Q Status		Project Q Budget		Project Q Results	
Project R		Project R Description		Project R Status		Project R Budget		Project R Results	
Project S		Project S Description		Project S Status		Project S Budget		Project S Results	
Project T		Project T Description		Project T Status		Project T Budget		Project T Results	
Project U		Project U Description		Project U Status		Project U Budget		Project U Results	
Project V		Project V Description		Project V Status		Project V Budget		Project V Results	
Project W		Project W Description		Project W Status		Project W Budget		Project W Results	
Project X		Project X Description		Project X Status		Project X Budget		Project X Results	
Project Y		Project Y Description		Project Y Status		Project Y Budget		Project Y Results	
Project Z		Project Z Description		Project Z Status		Project Z Budget		Project Z Results	

TABLE 4

## Summary of Seasonal Labor Needs by Months

Yolo County

1935

Month	Required man-days of seasonal labor	Available days	Required man-months of seasonal labor
January	4,190	18	233
February	5,963	20	299
March	7,039	22	320
April	31,077	22	1,413
May	39,431	25	1,578
June	39,154	26	1,506
July	21,124	26	813
August	59,327	26	2,282
September	54,619	26	2,101
October	29,156	24	1,215
November	12,077	23	526
December	11,742	18	653
Total	314,899	--	12,939

## Notes

Notes on Table 2.-- Data concerning "time of need" as shown in this table break down required seasonal labor into the period in which the work is performed in order to permit a subsequent determination of labor needs by months (table 3). Some operations are performed only to a limited extent with seasonal labor. For instance, only about 80 per cent of the labor in harvesting grain is done by seasonal workers. When a job extends over several different months, the proportionate amount for each month is shown.

The amount of work done each month is based on the cropping system followed during 1935. The allotting of amounts of work is based on findings concerning local farm practices, and required time to "make" a crop resulting from inquiry of producers, and records of carlot shipments, the latter proving helpful in fixing dates of planting and of subsequent tasks involved in producing certain crops. Proportionate amounts of output harvested each month were determined from data of local practices with respect to harvesting, and from carlot shipments of perishable products. Records of truck shipments were also used when available.

Notes on Table 3.-- Table 3 is the condensed summary of labor needs as worked out for Yolo County as a result of findings pertinent to 1935. The data are presented by months with the tasks which were performed in each month indicated by both crop and task. The size of the job was calculated from the data appearing in table 1 (acreage and production) and table 2 (task, time of performance, and percentage of work pertinent to a given month). The output per man-day was calculated as indicated in the foreword presenting table 3. The number of required man-days is a result of dividing the size of task by output per man-day. The available days for the different tasks involve two variables. The first is the number of days when field work is possible because of favorable weather conditions.







The basis for this column was determined from a study of the monthly weather charts of the United States Weather Bureau for the years 1933, 1934, and 1935. These data indicated available days per month as follows (based on a 26-day working month without allowance for holidays):

Month	Available days	Length of work day	Month	Available days	Length of work day
		hours			hours
January	18	9	July	26	10
February	20	9	August	26	10
March	22	10	September	26	10
April	22	10	October	24	10
May	25	10	November	23	9
June	26	10	December	18	9

Source of data: Based on precipitation records of the Woodland station of the United States Weather Bureau for the years 1933, 1934, and 1935.

The second factor influencing the number of available days was the size of the job. If the output was only a few cars, then the number of days was limited to the time needed to get out those cars efficiently. If a field operation had to be performed in a period less than the number of available days in the month, then the specific number of days was noted. These restrictions are shown in parentheses. For example, in July picking of apricots was limited to the first half of the month, picking peaches to the last ten days, etc.

The totals of table 3 show the total required man-days of needed seasonal labor, the available days for field work during the month, and the necessary number of men (as defined in the opening paragraph of table 3) required on a monthly basis to care for the tasks ordinarily performed by seasonal workers.

In an area such as Yolo County, involving a variety of annual crops, the findings as set forth in this report are bound to fluctuate materially from year to year, because of the market outlook upon what and how much acreage is planted, and when it is planted; because of variable seasonal conditions affecting yields, time of performing operations, and available days; and because of harvesting operations on certain crops being speeded up to supply a good market, or retarded to avoid a poor one, resulting in marked variations in the need for harvest labor.



The basis for this column was determined from a study of the monthly weather charts of the United States Weather Bureau for the years 1933, 1934, and 1935. Data indicated available days per month as follows (based on a 25-day working month without allowance for holidays):

Month	Available days	Length of work day hours	Month	Available days	Length of work day hours
January	18	8	July	28	8
February	20	8	August	28	8
March	22	10	September	28	10
April	22	10	October	26	10
May	26	10	November	22	8
June	28	10	December	18	8

Source of data: Based on precipitation records at the Woodland station of the United States Weather Bureau for the years 1933, 1934, and 1935.

The second factor influencing the number of available days was the size of the job. If the output was only a few cars, then the number of days was limited to the time needed to get out those cars efficiently. If a field operation had to be performed in a period less than the number of available days in the month, then the speed of days was noted. Those restrictions are shown in the annexes. For example, in daily picking of apricots was limited to the first half of the month, picking peaches to the last ten days, etc.

The focus of table 3 show the total regular and seasonal workers of the orchard, the available days for field work during the month, and the number of men (as defined in the opening paragraph of table 2) required on a monthly basis to care for the tasks ordinarily performed by seasonal workers.

In an area such as Kern County, involving a variety of annual crops, the changes are not great in this regard and being so, the number of workers is planned to year, because of the limited output from what and how much workers is planned, and when it is planned because of variable seasonal conditions affecting yields. The time of performing operations, and available days, and because of harvesting operations on certain crops being speeded up to supply a good market, or restricted to avoid a poor one, resulting in marked variations in the need for harvest labor.



